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LAND USE AND LOCAL FINANCE

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PREFATORY NOTE

As an operating organism, a city has five major aspects. Economic enterprise and the utility framework are the sturdy legs upon which it rests. Governmental structure and fiscal capacity are the arms which permit it to operate smoothly and effectively and to realize its higher goals.

Surmounting the whole is the fifth aspect which represents humanity in all its varied demographic and sociological manifestations. This is the peak, the head, the raison d'etre of the whole organism.

Omit any one of these basic aspects and there can be no city. Everything related to it, however, can be encompassed in one of these five fundamental categories of activity. All of these aspects are intimately related to each other and to the whole. The city will not enjoy good health in any one of its basic parts if it is seriously deficient in any other. Social, political, fiscal, economic, and utilitarian wellbeing are indivisible.

The utilitarian is perhaps the least clearly delineated of these urban aspects. In spite of many attempts, the nature and characteristics of a utility have never been satisfactorily defined, except perhaps for the person attempting the definition. Definitions vary considerably in legal, economic, and common parlance, and even within each of these categories.

Some of the most frequently noted characteristics of a utility are:

Being affected with a public interest
Being of a monopolistic, or quasi-monopolistic, nature
Subject to regulation by the government
Subject to rate-fixing by the government

The last two characteristics, however, indicate enterprises that have already been singled out as utilities, and are of no value in an a priori determination of what enterprises are by nature utilities and, therefore, must be subject to regulation. Rate-fixing is, of course, merely one form of regulation, which may or may not be used.

The first is the most significant characteristic of a utility. The distinguishing feature of a utility as delineated by the courts is that it is an enterprise that is so vital to the public welfare that it must be regulated in the public interest.

There is, however, no precise dividing line, since all business is subject to some regulation. The delineation must be largely on the basis of the extent of the essential regulation. Moreover, there is nothing static in the legal delineation of utilities. Bit by bit, the courts and the legislatures in their never-ceasing endeavor to fit law to life chisel out the guidelines.

The ancient elements of land, water, air, and fire are the primary utilities. They are so vitally essential to human welfare that when the available supply of any one of them is curtailed or impaired, the situation becomes of paramount concern and urgency to society. So primal to mankind is the importance of these ancient elements that they were deified in most early mythologies.

(*continued on page* 28)

Land Use and Local Finance

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PART I. LAND USES AND VALUES[1]

PEOPLE in the tax professions have been inclined to think of land primarily in terms of the local tax revenue derivable from it. There are various other fiscal implications in the use of land, however, and some of them may be as important to the public treasury as the direct revenue aspect.

SUPPLY AND UTILIZATION OF LAND

During recent years there has seemed to be a new awareness of land. Literally and figuratively, land underlies our entire way of life. The reawakening of interest in our heritage of real estate is only partly due to the sudden spurt in population growth which cut the per capita share of the 1904 million acres in continental United States from 14.5 acres in 1940 to 10.6 acres in 1960.[2] A much more important reason is the fact that our current civilization becomes increasingly dependent on the ancient elements of land, water, and air. Modern economy and modern society make ever greater per capita demands on all three. Moreover, more and more lavish use of land is necessary to fulfill water and air needs.

This demand comes to a focus in the urban regions. The city is a voracious devourer of land, and it also makes heavy demands outside its governmental boundaries. The metropolis is dependent upon the hinterland, not only for its food, but also for its water supply, its sanitary disposal, for its egress and ingress by various methods of transportation, for much of its outdoor recreation, and for dwellings for many of its daytime working population. Moreover, in recent years manufacturing plants, research centers, shopping developments, and other enterprises giving employment to many city residents and formerly identified with the city have been moving into the fringes or even the hinterland.

Around our large cities, and also around many smaller places, there is frenzied competition for land. Much is heard concerning speculators and/or developers, who have made quick fortunes. Less is said concerning blighted hopes or investments lost. Consideration of the tax angle is at the heart of all the feverish activity.

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[1] Part I of an article on Land Use and Local Finance. Part II will deal with "Regulation and Control of Land Uses" and Part III with "Fiscal Aspects of Land Use." The entire article on Land Use and Local Finance will be the first in a series of articles on Utilities and the City. The economic aspects of the city have been touched on briefly in an earlier series of articles in *Tax Policy*. These were reprinted in *Business Enterprise and The City*, published by the Tax Institute i 1958.

[2] In order to make the two periods comparable Alaska and Hawaii have been excluded.

The Overall Land Picture

The nearly two billion acres of land in the United States were utilized as follows in 1954:

	Million Acres	Percentage
Available cropland	465	24.4
Pasture and grazing land	633	33.2
Woodland and forest	615	32.3
Marshes, desert, rock areas, and dunes, etc.	81	4.3
Special uses	110	5.8
	1,904	100.0

Source: Hugh H. Wooten and James R. Anderson, *Major Uses of Land in the United States: Summary for 1954*, Washington: U. S. Department of Agriculture, Agricultural Research Service, 1957, p. 3.

Approximately 58 per cent of the total acreage is used or available for crops and pasture. Another 32 per cent is in woodland and forest. These uses constitute 90 per cent of the total supply.

The total acreage used for cropland and pasture and grazing has changed little in recent decades, but there have been significant shifts within these use classes. Land has been improved for crops and pasture by drainage, flood control, irrigation, and clearing. Also cropland has been increasingly concentrated on fertile and level land while hilly and eroded land has been shifted to grass and trees. Another significant change has occurred in certain areas in the shift of farm land to urban uses.

The number of crop acres harvested was 311 million in 1910 and 333 million in 1955, but the total has fluctuated considerably during this period, and reached its high and low within a space of two years, being at a high of 361 million acres in 1932 and a low of 296 million in 1934. The use of the harvest has shown even more signficant trends. Acres devoted to domestic use (other than feed for horses and mules) have increased from about 200 million in 1910 to about 300 million in 1955. Acres devoted to exports have increased in war and postwar years and reached an all-time high of 66 million in 1921. They were considerably less in the years before World War II than in the years preceding World War I.[3]

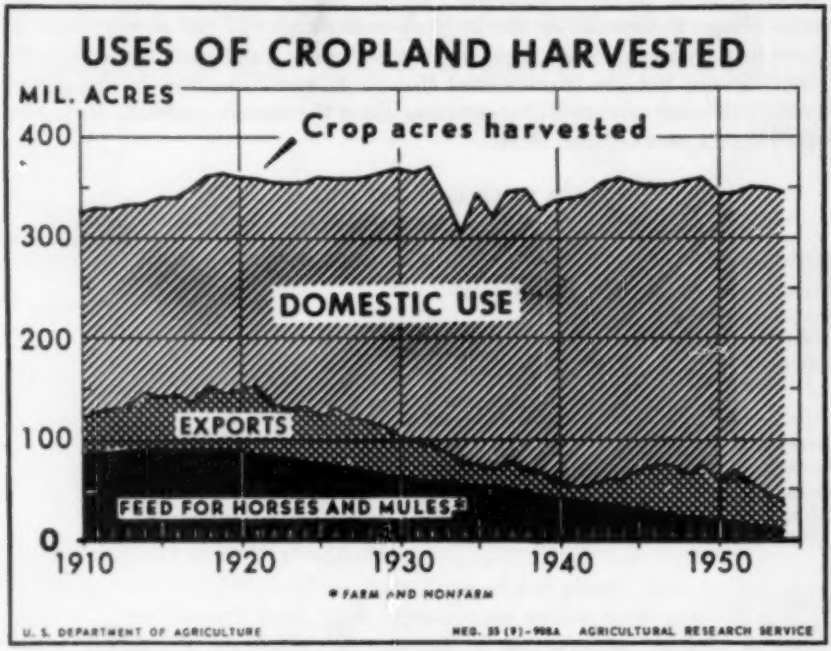
Perhaps the most startling fact evident from the chart reproduced below is that from 1910 to 1920 from 88 to 93 million harvested acres were used for producing feed for horses and mules. This figure did not include the grazing land. The land used for harvesting crops for horses and mules constituted 27 per cent of the total harvested area and almost 5 per cent of the total land area in the United States. Since 1920 there has been a steady decline of area used for this purpose. It reached a low of 8 million acres or 2.4 per cent of the harvested area in 1957.[4]

James R. Anderson, Agricultural Economist, Land and Water Research Branch, U. S. Department of Agriculture, said in a letter to the writer, August 29, 1958: "We do not have similar statistics on the acreage of grazing land used

[3] U. S. Department of Agriculture, *Changes in Farm Production and Efficiency*, Statistical Bulletin No. 233, Washington, 1958, Table 3, p. 8.

[4] *Ibid.*

for feed for horses and mules; however, the decline would be similar to that for cropland." The Agricultural Research Service reports that the total number of horses and mules was 24 million in 1910, reached a peak of almost 27 million in 1918, and declined to 4 million in 1956.[5]



Source: Wooten and Anderson, *op. cit.*, Figure 3, p. 14.

This makes it appear that in spite of the way land is being currently gobbled up for highways, the motor car is still utilizing far less acreage than was needed for its four-legged predecessor. Dobbin, however, was content to graze in isolated places. The motor vehicle makes its heaviest demands where other competing needs are greatest.

Since the total acreage for crops was somewhat greater in 1954 than in 1910 and since the acreage for exports was identical in the two years, the acreage devoted to human domestic consumption has more than taken up the slack occasioned by the reduction of acreage for horses and mules. However, per capita use of land for this purpose has declined from 2.17 acres in 1910 to 1.84 acres in 1954 and is estimated at 1.57 acres in 1957.

It is in the approximately 6 per cent of the total land area that is devoted to special uses that the land problem becomes most intense. The following table indicates these uses in continental United States in 1954.

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[5] Albert P. Brodell and M. R. Cooper, *Power and Machinery on Farms and Related Data*, Washington: U. S. Department of Agriculture, Agricultural Research Service, 1956, p. 9.

The land area of all populated places of 1,000 population and over amounted to only 18.6 million acres in 1954, or less than 1 per cent of the total land area. Viewed against the total acreage this amount seems trifling and might be except for three considerations: (1) the strategic and highly competitive location of most of these urban areas; (2) the heavy demands made upon the surrounding countryside by the built-up areas; and (3) the recent rapid increase in such areas. Urban areas are not uniformly distributed throughout the United States, but are concentrated heavily in certain regions reaching their densest and most extensive concentration along the eastern seaboard from Norfolk, Virginia, to Portland, Maine.

LAND IN SPECIAL-USE AREAS, 1954

Special Uses	Million Acres		Percentage of U. S. Acreage	
Urban areas (1,000 population & over)		18.6		.9
Rural transportation areas:				
Highways and roads	19.8		1.4	
Railroads	3.4		.2	
Airports	1.3		.1	
		24.5		1.7
Farmsteads		9.0		.4
Farm roads and lanes		2.0		.1
Parks:				
National parks	14.0		.7	
State parks	4.7		.2	
		18.7		.9
Wildlife areas:				
Federal	3.9		.2	
State	4.9		.2	
		8.8		.4
National defense areas:				
Army	7.1		.3	
Air Force	10.2		.5	
Navy	4.2		.2	
		21.5		1.0
Flood control		3.9		.2
Atomic energy areas		2.0		.1
State-owned institutions and miscellaneous		1.2		.1
Total special uses		110.2		5.8

Source: Wooten and Anderson, *op. cit.*, p. 27.

The urban areas are by no means self-contained. Aside from the tremendous acreages that must be devoted to supplying them with food, the urban areas demand and must utilize considerable land outside the city for other purposes.

Moreover, urban demands for land are increasing sharply. From 1945 to 1954, the annual increase in urban areas amounted to 395,000 acres, annual increases in reservoir areas amounted to 360,000 acres, in highways, 78,000

acres, and in airports, 5,000 acres. Railroad acreage decreased annually by 7,000 acres.[6]

More than 70 per cent of the land area is privately owned. Approximately 3 per cent is Indian tribal and trust-allotted land. Twenty-seven per cent is publicly administered. Local governments own about 17 million acres, the states own 80 million acres, and the federal government 408 million acres.

OWNERSHIP OF LAND, BY CLASSES, CONTINENTAL UNITED STATES, 1954

Classes	Acreage (*In millions of acres*)		Percentage of Total
Private land[a]		1,343	70.5
Indian land[b]		56	3.0
Public land:			
Federal land[c]	408		21.4
State land[d]	80		4.2
County and municipal land (estimated)[e]	17		0.9
		505	26.5
Total		1,904	100.0

[a] Private land includes individually owned, partnership, and corporate-owned land, also some highway and road rights-of-way not covered in public land. Approximation based partly on various state reports showing acreages assessed for taxation and partly on reports on acreages of public and Indian land.

[b] Summary of Indian lands by kind of use from the Bureau of Indian Affairs.

[c] Senate Doc. 100, 84th Cong., 2d Sess. *Inventory Report on Federal Real Property in the United States as of June 30, 1955.*

[d] U. S. Dept. Agr. Cir. No. 909.

[e] Estimate as of 1950 based on partial survey of readily available publications and records. Compiled from state and federal reports and records.

Source: Wooten and Anderson, *op. cit.*, Table 9, p. 32.

Utilization of Land Within the City

Although there are 18.6 million acres in populated places, these include small communities of no more than 1,000 population as well as the larger urban areas. It is interesting to see that well over half of this land is in places with less than 10,000 population.

URBAN LAND USE BY SIZE GROUPS, 1950

Size Group	Number of Cities	Square Miles	Acres
1,000-10,000	...	....	9,871,040 (est.)
10,000-25,000	753	4,277 (est.)	2,737,280 (est.)
25,000-50,000	249	2,439	1,560,960
50,000-100,000	126	1,762	1,127,680
100,000-250,000	65	1,577	1,009,280
250,000-500,000	23	1,343	859,520
500,000-1,000,000	13	1,000	640,000
Over 1,000,000	5	1,241	794,240
Total	1,234 (over 10,000 only)	13,639 (over 10,000 only)	18,600,000

Source: Data for cities over 25,000 from Marion Clawson, R. Burnett Held, and Charles H. Stoddard, *Land For The Future*, Baltimore: The Johns Hopkins Press, 1960, Table 10, p. 85. Cities from 10,000-25,000 estimated on basis of figures in study cited. Data for urban places under 10,000 represent merely the deduction of the figures for cities over 10,000 from the total of 18.6 million acres for all urban places over 1,000 population.

[6] Hugh H. Wooten and James R. Anderson, *Major Uses of Land in the United States: Summary for 1954*, Washington: U.S. Department of Agriculture, Agricultural Research Service, 1957, p. 26.

Unfortunately, only limited statistical data are available concerning urban land uses in United States cities, although the determination of such uses represents a particularly compelling public problem. The figures given below represent published data that have come to the writer's attention. No implication is intended that land use surveys have not also been made for various other cities.

Moreover, the data that are available are not strictly comparable. In some city surveys railroad and industrial land uses are lumped together, while in others utilities and transportation are combined. Classification for public and semi-public uses varies in different surveys.

Apparently, only during the last three decades have there been any data at all concerning urban land uses. This field was pioneered by Harland Bartholomew, a distinguished city planner. The studies by Mr. Bartholomew have been widely quoted and his data have been made the basis for various analytical studies.

> The realization that inventorying existing conditions is good municipal stock taking for cities was one of the developments that emerged from the depression days of the thirties. This led to wide-spread establishment of planning commissions and more extensive comprehensive planning. Since then cities are giving progressively more attention to their physical planning. Consequently, more cities have made land use inventories. These data are basic working tools for technical analyses on which to base planning and zoning studies. Current land use studies give the basic information on which to base revisions of zoning ordinances found defective in administration. Often these defects are due to over zoning of land for commercial use or unfavorable effects on land uses because of unbalance in other respects.[7]

In 1932 statistical material compiled by Harland Bartholomew from zoning surveys in 16 central and 6 satellite cities was published under the title *Urban Land Uses* as Volume IV of the Harvard City Planning Studies. Data concerning detailed land use in 53 central cities, 33 satellite cities, and 11 urban areas were later compiled in Mr. Bartholomew's office and published in 1954 in *Land Uses in American Cities*, which was Volume XV of the same series. The characteristics of the cities included in this study are as follows:

Area Surveyed	Population Group	Number of Areas	
Central cities	Under 10,000	9	
	10,000- 25,000	11	
	25,000- 50,000	8	
	50,000-100,000	13	
	100,000-250,000	7	
	250,000 and over	5	
			53
Satellite cities	5,000 or less	7	
	5,000-10,000	6	
	10,000-25,000	10	
	25,000 and over	10	
			33
Urban areas	120,000 or less	11	11
			97

[7] Max S. Wehrly and J. Ross McKeever, *Urban Land Use and Property Taxation*, Technical Bulletin No. 18, Washington: Urban Land Institute, 1952, pp. 17-18.

The developed area in central cities is utilized as indicated in the following table. All cities under 10,000 have been omitted in this and the following tables.

LAND USES IN CENTRAL CITIES (BARTHOLOMEW)

Use	11 Cities 10,000-25,000	8 Cities 25,000-50,000	10 Cities[a] 50,000-100,000	7 Cities 100,000-250,000	5 Cities 250,000-1,000,000
	Percentage of Developed Area				
Residences:					
Single-family	35.7	32.8	32.8	35.6	28.3
Two-family	3.2	4.6	5.4	3.6	6.8
Multi-family	1.4	2.0	2.4	2.2	4.9
	40.3	39.4	40.6	41.4	40.0
Commerce	2.8	3.2	2.9	2.9	4.3
Industry	4.9	6.8	6.1	5.8	8.4
Railroads	4.6	5.9	5.8	5.4	4.4
Streets	28.7	28.1	26.1	27.6	24.7
Parks & playgrounds	3.5	7.3	7.1	5.7	8.6
Other public & semi-public uses	15.2	9.3	11.4	11.2	9.6
Total Developed Land	100.0	100.0	100.0	100.0	100.0
	Percentage of Total Area				
Developed	62.9	62.5	70.6	66.6[b]	77.5
Vacant	36.0	35.2	25.8	29.7	20.4
Water	1.1	2.3	3.6	3.7	2.1
Total Land Area	100.0	100.0	100.0	100.0	100.0

[a] The following three cities in the 50,000-100,000 group were omitted because of certain erratic characteristics or incomplete data. St. Petersburg, Florida, devoted 57.3% and Lincoln, Nebraska, 42.2% of developed area to streets, and Racine, Wisconsin, data were incomplete.

[b] Corpus Christi is omitted here since 82.8% of its area is in water.

Source: Harland Bartholomew, *Land Uses in American Cities*, Cambridge: Harvard University Press, 1955, Appendix C, Tables 1 and 3.

LAND USES IN SATELLITE CITIES (BARTHOLOMEW)

Use	10 cities 10,000-25,000	10 cities 25,000 & Over
	Percentage of Developed Area	
Residences:		
Single-family	47.8	31.0
Two-family	1.8	5.3
Multi-family	1.6	3.9
	51.2	40.2
Commerce	2.1	3.1
Industry	1.6	13.6
Railroads	3.0	5.9
Streets	24.7	26.9
Parks & playgrounds	4.7	3.5
Other public & semi-public uses	12.7	6.8
	100.0	100.0
	Percentage of Total Surveyed Area	
Developed	62.2	77.1
Vacant	37.8	22.3
Water	0.0	0.6
Total	100.0	100.0

Source: Bartholomew, *op. cit.*, Appendix C, Table 7.

Another helpful survey of urban land uses was made by the Urban Land Institute in 1952.[8] Data on land uses were obtained from a number of selected cities by means of a questionnaire canvass. Data for 7 cities that gave separate statistics for the leading land uses are shown in the following table. A number of the cities covered in the survey have been omitted here because the data for them were not sufficiently complete to be helpful in this article.

LAND USE IN 7 CITIES (URBAN LAND INSTITUTE)

Use	6 cities[a] (50,000-250,000)	1 city over 1,000,000 (Philadelphia)
	Percentage of Developed Area	
Residences	35.8	30.6
Commerce	3.4	3.1
Industry (including railroads)	10.3	14.3
Streets	26.6	24.9
Other public & semi-public uses	23.6	27.0
Total	99.7	99.9
	Average Percentages of Total Area	
Developed	77.5	72.9
Vacant	22.5	27.1
	100.0	100.0

[a] Kalamazoo, Stockton, Harrisburg, Berkeley, Yonkers, and Richmond.

Land use data for Chicago appeared in a recent article.[9] The distribution of land uses is shown in the following table.

LAND USE IN CHICAGO IN 1956

Use	Percentages	
	Developed Area	Total Area
Residences	35.7	30.7
Commerce	6.6	5.7
Manufacturing & transportation	17.5	15.0
Streets	28.4	24.4
Parking	0.8	0.7
Public open space	7.6	6.5
Public buildings	3.4	2.9
Vacant	....	11.9
Water & unusable	....	2.2
	100.0	100.0

Source: See footnote 9.

Land use in New York City is of particular interest because of the size and density of this great metropolis. Moreover, the Borough of Manhattan, which is practically a city within a city, represents the peak of congestion and the most concentrated example of land use in this country.

[8] Wehrly and McKeever, *op. cit.*, p. 18.

[9] John R. Hamburg and Robert Sharkey, "Chicago's Changing Land Use and Population Structures," *Journal of the American Institute of Planners*, November, 1960, pp. 317-23.

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Data on land uses in New York City have been compiled by the Department of City Planning and are shown in the following table.

LAND USES IN NEW YORK CITY

Use	New York City	Borough of Manhattan
	Percentage of Developed Area	
Residences:		
Single-family	13.4	1.2
Two-family	5.5	0.4
Multi-family	7.9	22.2
	26.8	23.8
Commerce	1.4	4.5
Industry	5.5	9.5
Railroads	6.0	2.5
Streets	32.5	33.4
Parks & playgrounds	20.7	18.1
Other public & semi-public uses	7.0	8.2
Total developed area	99.9	100.0
	Percentage of Total Area	
Developed	84.9	97.3
Vacant	11.5[a]	2.7
Water & marshes	3.6	
Total land area	100.0	100.0

[a] About 24 per cent of the vacant land is under water or in marshes and about 13 per cent is in licensed parking lots.

Source: New York Department of City Planning, *Newsletter,* October, 1957, pp. 1-2; November, 1957, pp. 1-3.

Light is shed on urban land uses at the other end of the size scale by some land use surveys recently made in 10 relatively small Tennessee cities. One had less than 1,000 population; four were between 1,000 and 5,000; three ranged from 10,000 to 15,000; and two were between 15,000 and 25,000. The cities under 10,000 are omitted here.

LAND USE IN 5 TENNESSEE CITIES

Use	Percentage	
	Developed Area	Total Area
Residences	51.3	34.4
Commerce	4.8	3.2
Industry	9.3	6.2
Utilities & transportation	2.9	2.0
Streets	23.0	15.4
Other public uses	8.7	5.8
Vacant	....	33.0
	100.0	100.0

Source: Planning Newsletter [Tenn.], January, 1958, p. 2.

Each city has certain individual peculiarities which affect its land use pattern. Moreover, the combined data from these various sources constitute a very small sample of cities. There are also divergencies in methods of classification.

Nevertheless, there does emerge from the data a rough pattern of land use distribution. Moreover, there appear to be certain trends with respect to size in the case of some of the uses. It should be noted, however, that aberrations in land use tend to be exaggerated in a small city. Whereas a large city can include within its environs a great university, a state capital, excessive subdivision in some of its areas, or some other example of extraordinary land use, or perhaps even a combination of several such examples, and still show a pattern of land use without major distortion, any one of these examples would seriously distort the pattern of land use in a small city.

Therefore, in trying to arrive at a reasonable pattern of land use in different size groups by using averages, it is necessary to mitigate such distortions either by having a sample sufficiently large to minimize the impact of some of these exceptional uses, or to exclude from the sample the more extreme examples. Sufficient data are not available at present to do either effectively. It is consequently important to keep in mind that such distortions do exist.

Residences. Residences constitute the largest use of land in most cities but tend to be outpaced by transportation (including streets) as the cities become very large. The overwhelming proportion of residential use is in single-family houses in most cities. Even in New York City half of the residential area is devoted to single-family dwellings. In Manhattan, however, multi-family dwellings use approximately 93 per cent of the residential area, and only about 5 per cent of the residential acreage is used for single-family houses.

RESIDENTIAL USE OF URBAN LAND

City	Percentage of Developed Area			
	Single family	Two-family	Multi-family	All Residences
Manhattan (Borough)	1.2	0.4	22.2	23.8
New York City	13.4	5.5	7.9	26.8
Chicago	....	....	....	35.7
Philadelphia	....	....	....	30.6
5 central cities 250,000-1,000,000	28.3	6.8	4.9	40.0
7 central cities 100,000-250,000	35.6	3.6	2.2	41.4
6 U.L.I. cities 50,000-250,000	....	....	....	35.8
10 central cities 50,000-100,000	32.8	5.4	2.4	40.6
8 central cities 25,000-50,000	32.8	4.6	2.0	39.4
10 satellite cities over 25,000	31.0	5.3	3.9	40.2
11 central cities 10,000-25,000	35.7	3.2	1.4	40.3
10 satellite cities 10,000-25,000	47.8	1.8	1.6	51.2
5 Tennessee cities 10,000-25,000	....	....	....	51.3

Despite the diverse sources from which these statistics were drawn, there is surprising conformity among them. From these data it seems evident that as a city increases in size the proportion of the developed area devoted to residential purposes tends to decrease. This is partly due to the decreased size of the housing unit itself, but it is probably due even more to the decreasing size of plots and finally to the use of multi-layered apartment houses in congested areas.

This consistent shrinking of the dwelling unit, the shrinking or disappearing of any surrounding land in yards, and even after yards have disappeared the reduction in the ratio of site to dwelling size as more and more layers are added to apartment houses may not be due so much to population pressures for residences, nor even for commerce and industry, as to the rapidly growing accompanying demands for acreage for streets and other transportation facilities.

Cities from 25,000 to 1,000,000 in population appear on the average to devote about 40 per cent of the developed land to residences. (The average for the six U.L.I. cities is only 36 per cent, however.) In two of the three groups of cities under 25,000 over 51 per cent of the developed area is used for residences.

The giant cities devote a much smaller portion of the developed land to dwellings. The ratio for Philadelphia is 31 per cent and for Chicago 36 per cent. The New York City ratio drops to 27 per cent and in the congested Borough of Manhattan to 24 per cent.

The population of New York City, according to the 1960 census, is 7,781,984. The city is presently zoned, however, for a population capacity of 55,645,000. (A new zoning law adopted December 15, 1960, and effective a year later, zoned the city for an ultimate population of 12,273,000.) Manhattan with a present population of 1,698,284 is zoned for 5,180,000.[10]

Population density for New York City as a whole is 24,315 per square mile, and in Manhattan it reaches 71,351 per square mile, or approximately 118 per acre. Even this is considerably less than the density of 450 persons per acre which was reached in one lower east side census tract in 1930. A number of other tracts exceeded 250 persons per acre. Moreover, these areas had experienced a tremendous population loss in the decade of the 20's.

The 1960 census has revealed that many cities lost population during the 50's. Also in 1940 and 1950 the census showed that a number of the large cities had lost population. Unfortunately, we do not have sufficient land use data for the earlier decades to relate trends in land use to population trends. It does seem apparent, however, that the cities do not lack sufficient land for housing vastly greater numbers of people than are now living in them. It is not in the provision of residences as such that the cities suffer from land shortages.

More highly emotional factors are involved in housing than in any other urban land use. A man's home—likewise his tiny rented cubicle in a large apartment house—is his castle. It is more than that. It is a symbol that is tied up with his emotions, his idiosyncrasies, his whims, and his ambitions. Housing cannot be designed and located on the same scientific and impersonal basis as other structures in the city. Moreover, whereas the final decisions concerning other land uses in a large city are made by a relatively few persons on the basis of what we would like to think are scientific data, the decisions that de-

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[10] New York Department of City Planning, *Newsletter*, December, 1959.

termine residential trends are made by millions of relatively uninformed persons, largely on an emotional basis. Also, they have to be made within such leeway as is afforded by the economic and social circumstances of these persons.

Commerce and Industry. Despite the great importance of commercial and industrial enterprises to a city's economic wellbeing, they occupy surprisingly little of the land area, nor does there seem to be any clearcut tendency for such ratios to increase as a city grows larger.

LAND AREA DEVOTED TO COMMERCE AND INDUSTRY

Cities	Percentage of Developed Area		
	Commerce	Industry	Commerce & Industry
Manhattan (Borough)	4.5	9.5	14.0
New York City	1.4	5.5	6.9
Chicago	6.6	17.5*	24.1*
Philadelphia	3.1	14.3*	17.4*
5 central cities 250,000-1,000,000	4.3	8.4	12.7
7 central cities 100,000-250,000	2.9	5.8	8.7
6 U.L.I. cities 50,000-250,000	3.4	10.3*	13.7*
10 central cities 50,000-100,000	2.9	6.1	9.0
8 central cities 25,000-50,000	3.2	6.8	10.0
10 satellite cities over 25,000	3.1	13.6	16.7
11 central cities 10,000-25,000	2.8	4.9	7.7
10 satellite cities 10,000-25,000	2.1	1.6	3.7
5 Tennessee cities 10,000-25,000	4.8	9.3	14.1

* Including railroads.

Excluding satellite cities and those for which industrial and railroad acreage have been combined, the range for industrial acreage is from 5 per cent to 9 per cent of the developed area. The great variation in the satellite cities is understandable since a satellite could be either a predominantly smokestack or bedroom area. The rather high percentages for industry in some of the cities may be due to inclusion of some enterprises that are otherwise classified elsewhere. From the available data there appears to be no consistent size trend with respect to either commercial or industrial land usage.

Although surprisingly little urban land is used for commerce and industry, such land must be strategically located. The most valuable urban land is found in these categories,[11] particularly for commercial purposes. The cities have ample land for commercial developments, but they frequently lack sufficient adjacent land to provide the desired transportation facilities for enterprises such as shopping centers.

The situation is somewhat different with respect to land for industrial pur-

[11] Recent trends in connection with industrial and commercial developments have been discussed in previous issues of TAX POLICY. *See* "Industrial Location Trends and Factors," August-September, 1955; "Industrial Location Impacts," February-March, 1956; and "Trends in Office Location," September-October, 1957. Reprinted in *Business Enterprise and the City.*

poses. With the current trend toward horizontal industrial plants and otherwise lavish use of land, industries now frequently seek and find their sites outside city limits and sometimes far into the hinterland. Again necessary land for transportation, particularly with respect to employees' cars, is an important consideration.

Streets and Transportation. Next to housing, transportation is the voracious consumer of urban land, but the trends work in opposite directions. As cities become larger less land is utilized for residential purposes, but it appears from the following table that a larger proportion must be devoted to streets and other forms of transportation.[12] The statistics would be even more striking, except that in the very large and congested cities the supply of land is not sufficient for complete reliance on surface transportation and much of the transport must be driven underground or carried overhead.

LAND AREA DEVOTED TO TRANSPORTATION

Cities	Percentage of Developed Area		
	Streets	Railroads	Streets and Railroads
Manhattan (Borough)	33.4	2.5[a]	35.9[a]
New York City	32.5	6.0[b]	38.5[b]
Chicago	28.4	....[c]	28.4[c]
Philadelphia	24.9	....[c]	24.9[c]
5 central cities, 250,000-1,000,000	24.7	4.4	29.1
7 central cities, 100,000-250,000	27.6	5.4	33.0
6 U.L.I. cities, 50,000-250,000	26.6	....[c]	26.6[c]
10 central cities, 50,000-100,000	26.1	5.8	31.9
8 central cities, 25,000-50,000	28.1	5.9	34.0
10 satellite cities over 25,000	26.9	5.9	32.8
11 central cities, 10,000-25,000	28.7	4.6	33.3
10 satellite cities, 10,000-25,000	24.7	3.0	27.7
5 Tennessee cities, 10,000-25,000	23.0	2.9[d]	25.9

[a] Railroads mainly underground.
[b] Railroads largely underground.
[c] Railroad figures included under industry.
[d] Including utilities.

There appear to be no complete data on land devoted to transportation. Figures for streets are found in the surveys quoted above. Moreover, land used for railroads is shown separately for a number of cities.

In addition to streets, railroads, parking spaces, garages, and service stations, the transportation total should also include airports, railroad, bus, and steamship terminals, and other facilities used in transporting goods and persons.

There are many things that affect the use of land for streets. It is claimed that the gridiron pattern requires appreciably more land than "street systems" based on functional and informal design principles.[13] Also, some cities have

[12] The Bartholomew and U.L.I. cities, however, do not show this trend. Those cities devote from 24.7 per cent to 28.7 per cent of their developed area to streets. These figures, however, are substantially larger than those for the Tennessee cities and substantially smaller than those for New York City.

[13] Bartholomew, *op. cit.*, p. 65.

much wider streets than others. Premature and excessive subdivision will exaggerate the land ratio for streets. For example, in 1941, over 57 per cent of the developed area of St. Petersburg, Florida, was in streets.[14] On the other hand a very large park or some large institution may reduce the ratio for streets.

A substantial portion of urban land is devoted to streets. It also appears likely that this amount is increasing all the time as streets are widened and new approaches and intersections are constructed.

To the street total there must be added some 5 per cent or more of the city's developed area which is used for railroads, and other forms of transportation. Railroad land use varies greatly in different cities. The range of averages in the different city groups is from 3 per cent to 6 per cent.

If the growing areas utilized for parking spaces, garages, and service stations, which are a natural concomitant of the use of streets for motor transportation were included, the total proportion of the city area used for movement of goods and persons would be substantially increased. Unfortunately, data seem to be almost completely lacking for parking. Almost 1 per cent of the Chicago developed area is devoted to parking. About 0.2 per cent of the total land area in New York City is in licensed parking lots. Realistic figures for parking should include private garages as well as public parking facilities. The New York Department of City Planning has said that there are 1.5 million cars in the city and that they "occupy more than 6,000 acres."[15] This represents almost 3 per cent of the city's gross area.

Very little is available on terminals. Terminals and piers in New York City owned by the Port Authority alone used 258 acres.[16]

If complete transportation figures were available it seems reasonable to suppose that well over 40 per cent of the New York City land is devoted to transportation uses. Moreover, New York is honeycombed with subsurface transportation facilities. If the underground and overhead transportation had to be carried on the surface, the percentage of land use for this function would be very much greater.

Parks and Playgrounds. The amount of land used for public and semi-public institutions will, of course, vary greatly in different cities—the proportion being very high in cities where state capitals, state universities, or federal enterprises are located.

Parks and playgrounds constitute an important use of urban land. As cities become larger and the play and recreation space afforded by plots around homes tends to disappear, the provision of public breathing space becomes more important. If such areas are not adequately provided, children and youths will tend to find recreation in the streets, usually thereby contributing to traffic hazards and juvenile delinquency.

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[14] *Ibid.*, Appendix C, Table 1.

[15] *Newsletter*, December, 1959, p. 4.

[16] See footnote c to table on page 19.

Statistics on park and playground space and other public uses in the cities are shown in the following table.

PARKS AND PLAYGROUNDS AND OTHER PUBLIC USES

City	Percentage of Developed Area		
	Parks & Playgrounds	Other Public & Semi-Public Uses	Total
Manhattan (Borough)	18.1	8.2	26.3
New York City	20.7	7.0	27.7
Chicago	7.6	3.4*	11.0
Philadelphia	....	....	27.0
5 central cities, 250,000-1,000,000	8.6	9.6	18.2
7 central cities, 100,000-250,000	5.7	11.2	16.9
6 U.L.I. cities, 50,000-250,000	....	....	23.6
10 central cities, 50,000-100,000	7.1	11.4	18.5
8 central cities, 25,000-50,000	7.3	9.3	16.6
10 satellite cities over 25,000	3.5	6.8	10.3
11 central cities, 10,000-25,000	3.5	15.2	18.7
10 satellite cities, 10,000-25,000	4.7	12.7	17.4
5 Tennessee cities, 10,000-25,000	....	....	8.7

* Public buildings.

Vacant Land. Vacant land accounts for a surprisingly large proportion of city areas. Excluding water area, we find that the proportion of land unutilized for urban purposes is as follows:

Manhattan (Borough)	2.7%
New York City	11.5
Chicago	11.9
Philadelphia	27.1
5 central cities, 250,000-1,000,000	20.4
7 central cities, 100,000-250,000	29.7
6 U.L.I. cities, 50,000-250,000	22.5
10 central cities, 50,000-100,000	25.8
8 central cities, 25,000-50,000	35.2
10 satellite cities over 25,000	22.3
11 central cities, 10,000-25,000	36.0
10 satellite cities, 10,000-25,000	37.8
5 Tennessee cities, 10,000-25,000	33.0

Excluding Manhattan, the proportion of vacant land ranges from approximately 12 per cent in New York and Chicago to as much as 38 per cent in some of the smaller satellite cities and to 36 per cent in some of the smaller central cities. Although city limits are highly arbitrary and frequently fall far short of including real urban area, it is nevertheless surprising that such a large proportion of the land is undeveloped, even in the large cities. This figure would be further increased if land were cleared of unused and obsolete structures. It might be that some vigorous municipal housecleaning (or rather land clearing) practices would reveal more available space than is generally realized.

General Comments on Land Use Within City. Certain aspects of land use stand out significantly in the above data. Perhaps most surprising is the substantial amount of vacant land even in congested central cities.

The second thing to surprise a layman is the large proportion of land utilized

for the movement of persons and goods. When one considers these figures against a present background of almost intolerable urban traffic congestion, the difficult problem involved in providing facilities for smoothly flowing traffic becomes apparent. When perhaps 30 per cent or 40 per cent or more of the city's land is already used for the movement of persons and goods, a serious question arises as to how much more land can be devoted to this purpose.

A third item of interest in these land use studies is that the proportion of residential land in the larger cities falls off so markedly and constitutes less than a third of the developed area in at least two of the large cities. Actually it is not much more than a fourth of the New York City developed area.

One is surprised also by the great variations in the proportion of land for industrial purposes and for parks and playgrounds.

There are three major needs with respect to urban land use data:

1. A model scheme of land use classification adopted by an authoritative body and generally followed in making land use surveys.

2. A central clearing agency to correlate the data available as a result of individual city surveys.

3. A suitable classification of cities for use in analyzing the data. It is not particularly helpful to combine suburban, resort, and more well-rounded cities in one coverage. Moreover, cities showing highly erratic patterns of land use should be excluded from the statistical analysis unless the sample is large enough to prevent such examples from distorting the statistical results and giving a false idea of the more normal pattern of land use.

The City's Use of Land in Outlying Areas

Statistical information concerning the demand for and utilization of extra-territorial land by cities is almost nonexistent. Yet the city makes heavy demands upon the outlying territory.

It has always been recognized that the city population was dependent on outside areas for the bulk of its food supply. According to anthropologists the very origin of cities in prehistoric times was due to the emergence of agriculture which freed some of the population from the necessity of providing daily food and made it possible for them to turn to other pursuits.

Moreover, it has been increasingly recognized in recent years that large and ever-increasing acreages in fringe areas were being utilized for residences for the city's working population.

There is much less awareness, however, of the substantial demands of the modern city upon the surrounding territory for purposes so essential to the city that land is held in public or semipublic ownership for them. Water supply, sewage disposal, airports, parks, and cemeteries are some of the these municipal land needs.

It seems probable that the larger cities may need a higher extraterritorial land ratio to the gross area than do smaller cities, but the data to substantiate such an assumption are not available.

The total gross acreage in the City of New York is 204,876. The external land use for only three functions is equivalent to 41 per cent of the city's land area. Although it must be recognized that the Port Authority operations serve the entire metropolitan area and not just the city, it is apparent that

even though this acreage were cut in half or eliminated altogether, the land used for the other two functions would be the equivalent of 36 per cent or more of the city's land area.

New York City is, of course, typical only of itself, but the following data may indicate the great dependence of a large city upon extraterritorial land.

LAND OUTSIDE CITY OWNED OR LEASED BY NEW YORK CITY OR PORT AUTHORITY

Water supply	71,106 acres[a]
Welfare institutions	2,373 acres[b]
Owned by Port Authority (not including land in New York City)	2,423 acres[c]
Leased by New York City	8,478 acres[c]
	84,380 acres

[a] Data obtained in a letter from Armand D'Angelo, Commissioner, Department of Water Supply, Gas and Electricity, October 2, 1958:

"The following tabulation indicates the area of water supply land owned by the City of New York outside its territorial limits and is separated into watershed systems:

	Acres
Croton System	21,071
Catskill System east of the Hudson River	6,002
Catskill System west of the Hudson River	18,478
Former Brooklyn Water Supply System in Nassau County	2,555
Delaware System	23,000"

[b] Data obtained from following letter from W. J. McDonough, Assistant Chief, City Property Division, Bureau of Real Estate, September 22, 1958:

"Aside from water supply lands, the following properties outside its territorial limits are presently owned by the City of New York:

Town of Bedford, Westchester County—204 acres—
Site for Home for Neglected and Dependent Children
Town of Goshen, Orange County—589 acres—
Former New Hampton Farms Reformatory
Town of Mount Hope, Orange County—1,322 acres—
Former Otisville Sanitorium
Town of Chester, Orange County—258 acres—
Shelter for Homeless Men (Camp La Guardia)."

[c] The following data were obtained in a letter from W. M. Schwarz, Deputy Director, The Port of New York Authority, October 22, 1958:

"I believe the following will answer your inquiry.

George Washington Bridge:	Fort Lee, New Jersey	21.6	acres
	New York City	17.4	"
Bayonne Bridge:	Bayonne, New Jersey	17.5	"
	Port Richmond, S. I. New York [City]	28.5	"
Goethals Bridge:	Elizabeth, New Jersey	9.0	"
	Howland Hook, S. I. New York [City]	8.4	"
Outerbridge Crossing:	Perth Amboy, New Jersey	16.5	"
	Tottenville, S. I. New York [City]	8.0	"
Lincoln Tunnel:	Weehawken and North Bergen, New Jersey	105.0	"
	New York City	17.5	"
Port Authority Bus Terminal:	New York City	5.0	"
Port Authority Building:	New York City	3.8	"
New York Union Motor Truck Terminal:	New York City	3.9	"
Newark Union Motor Truck Terminal:	Newark, New Jersey	23.5	"
Brooklyn Grain Terminal:	New York City	47.8	"
Brooklyn-Port Authority Piers:	New York City	177.7 (includes land under water)	"
Elizabeth-Port Authority Piers:	Elizabeth, New Jersey	635.0 (includes land under water)	"
Newark Airport:	Elizabeth, New Jersey	811.6 (Airport extension)	acres
Teterboro Airport:	Hasbrouck Heights, Teterboro, Moonachie, New Jersey	783.3	"

". . . Though the property in this group is not owned by the Port Authority, the following tabulation of the area of each is given as a matter of information.

New York International Airport:	New York City	5,091.0	acres
La Guardia Airport:	New York City	712.0	"
Newark Airport:	Essex County, New York	1,383.0	"
Port Newark:	Essex County, New Jersey	1,239.0	"
Hoboken-Port Authority Piers:	Hoboken, New Jersey	48.0	"
Holland Tunnel:	Jersey City, New Jersey	.5	"
	New York City	4.1	"

In the Bartholomew study land use was also checked in eleven urban areas, consisting of a central city and fringe developments. Only two of the central cities (Corpus Christi, Texas, and Lincoln, Nebraska) exceeded 100,000 in population and only two others had as much as 50,000 population. One was under 10,000.

Statistics are not given for water and vacant land, but urban land uses for developed areas were as follows:

LAND USES IN 11 URBAN AREAS

Type of Use		Percentage of Developed Area
Residences:		
Single-family	25.1	
Two-family	1.6	
Multi-family	1.3	
		28.0
Commerce		2.7
Industry		5.6
Railroads		6.2
Streets		27.6
Parks & playgrounds		4.6
Other public and semipublic uses		25.3
		100.00

Source: Bartholomew, *op. cit.*, Appendix C, Table 11.

An indication of this extraterritorial demand is seen in the Bartholomew statistics. "Airports, large institutions, and cemeteries make public and semipublic uses the largest single use of land found outside of the eleven central cities. On an average 40.30 per cent of the developed areas beyond the corporate limits is occupied by public and semipublic uses."[17]

Ownership of land by the city is by no means, however, the only indication of the city's demands upon the surrounding countryside. Recreational facilities must be found to a large extent outside the city proper. Moreover, the surrounding territory must provide a generous amount of land for a vast network of highways to provide ingress and egress.

A modern city is by no means self-contained within its geographical limits with respect to its use of land.

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It is against the background of such physical data as are given in the studies quoted in the preceding pages that the fiscal aspects of land use must be considered.

[17] Bartholomew, *op. cit.*, p. 114.

Urban Land Values—A Key to Utilization

Land values affect land uses, but just as truly land uses—actual, potential, and wholly imaginary—affect land values.

> The uncertainty engendered by the fact that present value is always measured by our estimate of future uses lends a speculative flavor to all real estate appraisals.[18]

An essential first step in determining actual land values is to discover the existing pattern of land use throughout the city and the amounts of land devoted to each of the major uses. Such a pattern should show not only the amount of land zoned for each use, but the amount actually utilized for these purposes.

Having discovered what the city is presently doing, or not doing, with its land, the next and far more difficult task is that of forecasting potential demands for land use. Such a forecast must be based on a painstaking analysis of the complex of political, economic, technological, and social forces acting upon the city. With all the difficulties and uncertainties involved in the process, there are tremendous possibilities for error. Such efforts should, however, reveal certain guidelines which would eliminate some of the more patently fictitious projections of future land use.

One does not proceed very far along these lines, for example, without discovering that frequently a grossly exaggerated amount of land is zoned for commerce. It was pointed out in 1934 by Frederick L. Ackerman, who was then Technical Director of the New York City Housing Authority, that if New York City were to be built up in the full density permitted under the zoning ordinance of that time with no buildings over 600 feet in height, the capacity of the residential districts would be approximately 77 million persons, while the commercial districts would provide for a working population of 344 million.[19] It may be noted that the latter figure was more than twice the population of the entire country at that time.

The adverse effects of overly generous business zoning on land values and land use have been pointed out by Harland Bartholomew:

> Although pressure for too liberal business zoning still comes from some misguided or overoptimistic property owners, it has long been evident that there is an optimum amount of space that can be absorbed by commercial uses for a given population. The overzoning of business land is detrimental in many ways. First, it has created this surplus commercial supply on the erroneous assumption that it would ultimately be used. This has depressed property values for owners in the less strategic locations. In turn this has weakened the tax structure of the city. But equally important, overzoning has the effect of sterilizing large areas that otherwise might have been developed for some other use. Land so zoned has been spottily developed with single-family or other "higher type" uses, and so the zoning plan neither recognizes the existence of many homes in the area nor gives sufficient protection to the strategic locations for which there is a genuine commercial demand. In sum, overzoning tends to

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[18] Henry E. Hoagland, *Real Estate Principles*, New York: McGraw-Hill Book Company, Inc., 1955, p. 219.

[19] Frederick L. Ackerman, "Population Expectations, Zoning, Appraisals, and Debt," *The American City*, October, 1934.

sterilize ribbon frontage areas for any effective use, and the proper land is not reserved for the vital needs of commerce. . . .[20]

In analyzing present and projected future land uses, it is as essential to consider the outlying land uses as those within the central city. More and more, land in the fringe areas enters into competition with land in the central cities. This is pointed out in a recent study.

> The spreading out of metropolitan areas, of course, has increased greatly the volume of land available for business as well as other uses. Outlying and downtown business land uses compete with each other. . . .
>
> . . . Prior to the spreading out of metropolitan areas downtown centers held a heavy majority of local business land uses. Today this position has been substantially modified.[21]

In considering metropolitan land uses, we are sadly in need of more understanding of *homo metropolitanus*. What is he like? What does he do? What does he want? What are his land requirements?

From some of the numerous recent studies his outlines appear to be emerging, although perhaps in almost as shadowy form as those of his Cro-Magnon predecessor. Residents in central cities are for the most part low income or high income, whereas the preponderance of the middle income families are found in the suburbs.

With respect to economic enterprises, there appears to be less central city emphasis on manufacturing, and what there is, is mainly in smaller enterprises. There is much greater emphasis on service enterprises, including the professions. The emphasis on retailing is lessening with luxury and specialty shops representing a larger proportion. The large industrial plants and the large regional shopping centers are found increasingly in the suburbs.

In spite of the current emphasis on office building, it is doubtful that there are larger central city acreage demands for this purpose. Moreover, there is some informed opinion indicating that the end of the office building boom may be in sight.

Considering that new housing enterprises in the city are utilizing land much more intensively than was done by the slum buildings that are now being replaced, it is questionable whether more land in the central city needs to be devoted to residential purposes to satisfy the demand. Indeed, it may be questioned whether there would be sufficient demand to justify replacing all the substandard housing at the densities of the new housing. It is sometimes claimed that many suburbanites would return to the city if greater housing amenities could be offered. That may well be true, but the problems involved in providing these amenities are so great and the extent to which the suburbanites would return—if, as, and when, such amenities could be provided—is so highly uncertain that we cannot place too much dependence upon this happening.

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[20] *Op. cit.*, pp. 46-47.

[21] Arthur M. Weimer, *Investors and Downtown Real Estate—Opinion and Comment*, Technical Bulletin No. 39, Washington: Urban Land Institute, 1960, p. 12.

Demands for land for public works, cultural facilities, and recreation are expanding.

The most insatiable demand for land, however, is for transportation of goods and persons, particularly by private automobiles.

After adequate information is generally available on how land is presently being used and there is some reasonable projection of potential demands, consideration of more effective utilization of the land supply becomes possible and appropriate. Moreover, more reasonable pricing of land is likely to result from public understanding of these data.

Land prices constitute the key to utilization. In spite of certain artificial barriers[22] to a free adjustment of urban land prices on a supply and demand basis, and most of all in spite of largely fictitious ideas concerning potential demands on the part of landowners, urban land values do respond to demand, although at times this is done slowly and erratically, at least when demand slackens. When demand increases there can be little question concerning the rapidity with which prices go up.

In the case of private owners price will be a major determinant of the manner and extent of land utilization. It will also affect the public use of land.

Some years ago it was pointed out by Professor Herbert D. Simpson that: "A price which, however effectively enforced, never connects with any actual business is a *fictitious* price."[23]

Public housing programs had their inception during the thirties. There were many persons at that time who pointed out that land prices in some of the decadent areas were fictitious. For example:

Homer Hoyt was quoted in *The New York Times*, August 11, 1935, as saying that decayed residential areas near business districts have little future value or use and that faith in the old myth that such areas will ultimately increase in value because of absorption for commercial or industrial uses is misplaced. He said:

> Except for isolated cases, the main chance for any material improvement in the actual use value of land in blighted areas depends upon the creation of a new character for such districts by sweeping away or modernizing all the existing obsolete improvements and by starting the cycle of neighborhood development all over again. This new growth can take place, however, only if the present false structure of land values in these areas is deflated.

Bernard J. Newman, Director of the Philadelphia Housing Association, said:

> Most ballyhoo artists in this field, who are advancing a single program as a panacea for such ills, seem to think that the blights we have inherited are due to causes for which our sires were largely responsible, and that once we get rid of the objectionable conditions through a gigantic slum clearance program financed by Federal funds and directed by an omniscient central office in Washington, we shall be free from this ogre for all time. But this is pure rot. We cannot set up a program until we learn whether

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[22] Including such things as zoning, rent control, local assessment policies, tax expedients to spur housing, the possible effect of shoring up land prices through acquisition of land for urban renewal, and lax enforcement of building regulations.

[23] *Purchasing Power and Prosperity*, Chicago: Foundation Press, 1936, p. 107.

we have in our respective towns areas of imaginative land values which are a hold-over from the inflated values prevailing when the demand for houses exceeded the supply. Where would we get with our program if we went into these blighted areas with slum clearance projects that re-used the sites for new housing, intensive in character because of fictitious land prices, and that encouraged land owners to expect a continuance of the imaginative values? These day dreams must be deflated.[24]

Irving Brant, Editor of the *St. Louis Star-Times*, also hammered away at the problem of fictitious land prices:

The Public Works Administration, if it would make its low-cost housing program a success, must beat down and explode the great American delusion of wealth through land speculation. It cannot in morals sanction a price for land based on the dream of commercial or industrial expansion. Nor can it do so in practice, because the people who are to live in these houses cannot pay interest on swollen land values.[25]

Thomas S. Holden, F. W. Dodge Corporation, said in the *New York Building Congress News* of February, 1933:

It must be obvious that only small portions of Manhattan's land now occupied by depreciated housing are likely to be in demand for commercial uses or for housing high-income families. Land values that anticipate such uses not only lead to excessive taxes and carrying charges at present but also to probable disappointment to most owners in their expectations of future profit. Land values on a scale that would permit housing for medium-income families and essential neighborhood improvements, would encourage new developments tending toward better and more stable income from the property.

Carey H. Brown, of the Public Works Administration, said in an address before the American Society of Civil Engineers, January 18, 1934, that the "absurd" values placed upon slum-area lands constituted the most serious difficulty in the way of housing developments by the PWA, and added:

As to the cities, the frontier has not yet disappeared and we are probably destined to remain in the period of exploitation for some time to come. The suburbs provide frontiers for residence, and business continues to move outward from the centre in the surrounding blighted residential areas. The greatest difficulty in municipal development lies in this tendency to abandon property and the utilities, water, sewer, electricity, streets and so forth which have been installed to serve it. . . .

There is no valid reason why assessors should continue to place high tax values and consequent high fixed charges upon close-in, decadent, residential property, while the area which is, in fact, most favored and of greatest value is far out and assessed at a relatively low figure.

Other similar views were expressed during the thirties and since then. Now, a quarter of a century later, the accuracy of these forecasts has been demonstrated. In spite of an unprecedented and unanticipated increase in the population, of unexampled prosperity, of an extraordinary period of homebuilding, of tremendous industrial and commercial expansion, and of considerable in-

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[24] From paper delivered at Conference on Municipal Planning, Zoning and Housing of the Pennsylvania Association of Planning Commissioners, Williamsport, June 12, 1936.

[25] In an address before Second National Conference on Slum Clearance and Rehousing, Washington, January 18-20, 1935. Printed in pamphlet form under the title *The Great American Delusion*, pp. 4-6.

flation, land values in the central cities have not shown comparable increases. In some central cities values have actually fallen, not only in the blighted areas, but in the city as a whole. The great increases in land values have been in the suburban fringes and in certain isolated pockets of the central city. Much of the rest represents areas of stagnation.

A study[26] published in *Architectural Forum* estimates that "land prices for all five boroughs [in New York City] are now about 10% below 1947, when adjusted to constant dollars."[27] It also points out that

> . . . in midtown Manhattan, where despite a strong centralizing countercurrent and a demand for space that is unique in the country, the price of prime sites is still well beneath the levels of the twenties. Rents have not risen rapidly—market resistance has held the bulk of office space to a range of $5 to $6 a sq. ft.—and capitalization rates are unchanged from 30 years ago. The squeeze of rising construction and operating costs has had to come out of something, and that something has been land.[28]

Mr. Fogarty states that: "In all the cities surveyed, this pattern of pockets of boom amid areas of price stagnation was a common one."[29]

In an address before the International Association of Assessing Officers on September 19, 1960, James C. Downs, Chairman of the Board, Real Estate Research Corporation, said:

> In the field of real estate, values have stabilized or begun a decline of uncertain proportion and duration. Rents have stopped increasing in many cases, while operating expenses have not. Net income therefore no longer automatically increases to absorb inflationary economic factors. The effect on capital values is necessarily deflationary.

William Zeckendorf, President of Webb & Knapp, in addressing a group of mortgage bankers, said:

> We have seen the high point, probably forever, of high-grade commercial urban land.
>
> The same thing is true of high-grade residential urban land. Park Avenue land in the 70th Street area of New York once sold for as much as $225 a square foot, but today nobody can afford to pay over $100 a square foot for it.
>
> This is very significant. For we were once taught that high-grade urban property was the one imperishable and only absolutely safe investment, and yet it has shrunk 75 per cent in terms of buying power in relationship to today's dollar.[30]

Homer Hoyt said: " . . . Downtown retail land values, with few exceptions, have either declined absolutely or have failed to keep pace with the decline in the purchasing power of the dollar."[31]

How much more, or how much more quickly, urban land values might have fallen—had there been no artificial props, and had there been regulatory deflation through more effective utilization of police powers in controlling the use of unsafe and insanitary housing, coupled with compulsory demolition of

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[26] Frank Fogarty, "Land II: The Strange Case of the City," *Architectural Forum*, March, 1957.

[27] *Ibid.*, p. 136.

[28] *Ibid.*, p. 248.

[29] *Ibid.*, p. 136.

[30] Quoted in *Architectural Forum*, July, 1958, p. 143.

[31] *The Urban Real Estate Cycle—Performances and Prospects*, Technical Bulletin 38, Washington: Urban Land Institute, 1960, p. 14.

obsolete structures, and if concurrently, there had been more economic analyses revealing actual trends and future potentials—is anyone's guess.

Fictitious land prices, however, are not confined to the central city. Not only land owners, but also the general public, have assumed from visual evidence of the tremendous residential developments in outlying areas, plus large industrial or retailing projects, and from the reported fantastic rises in land prices, that the ownership of fringe land constituted a gold mine of opportunity.

Such is actually not the case, according to some recent expressions of informed opinion. It is claimed that land is definitely not in short supply—either in the city or the suburbs.

The most dramatic testimony to this effect is to be found in the August, 1960, special issue of *House & Home* devoted to "Land." The text is illustrated profusely with aerial photographs and maps, which offer striking corroboration of the text.

The authors[32] declare:

> . . . take a good long look ahead before you let today's artificial and temporary land scarcity . . . scare you into paying land prices you may soon have reason to regret.
>
> Already farm prices outside the suburbs have leveled off and started to fall. . . . And don't forget that land prices in most central cities are lower today than they were in 1929!
>
> Says Housing Economist Miles Colean: "Present land prices cannot be sustained unless we get a big new shot of inflation, because 1) cheap money did more than anything else to start land prices soaring and 2) today's 6% interest rate makes it much harder for homebuyers to absorb inflated costs (like today's land prices).
>
> If you want to get better land for less, wait for the market to turn. Suburban land will sell for much less before it sells for much more.
>
> Today's sky-high suburban land prices are predicated on an artificial and temporary scarcity—a scarcity created in the midst of plenty by holding off the market vastly underestimated miles and miles of land in anticipation that vastly overestimated future demands will drive prices still higher.
>
> Today's fancy land prices can be kept high only as long as the illusion of scarcity can be preserved, as long as each buyer thinks the land he pays too much for today would cost more—and sell for more—tomorrow. . . .[33]

The following additional comments appear in the November, 1960, issue of *House & Home:*

> Are land prices falling at last? Evidence is too spotty for sweeping judgments, but you can find the first indications of what may become a trend. Whether this presages a major drop in the value of speculatively held acreage across the nation, it is too soon to say. Items:
>
> Predicted NAHB President Martin Bartling last month before an audience of more than 1,000 mortgage bankers in Chicago: "The land bubble is either about to burst or has. . . ."

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[32] "The land price, land economics, and land tax sections of this issue were researched and written in collaboration with America's No. 1 housing economist, Miles L. Colean, and two of America's foremost land economists—Professor Ernest M. Fisher of Columbia University and Professor M. Mason Gaffney of the University of Missouri. Much of the field research was done by Grady Clay."

[33] P. 105.

Reports Builder-Land Developer Albert Balch of Seattle: the price of suburban raw acreage crested more than a year ago in the Pacific Northwest, has been sliding since. (At the Home Manufacturers Assn meeting in Miami Beach, several prefabbers said land inflation seems to have stopped at the end of 1958 in many parts of the Midwest and Southwest.)

The Agriculture Dept says the boom in farm land prices has lost its steam. Prices are falling for the first time since 1952. The drop so far is slight (a decline of $300 million from the peak of $129.1 billion in total market value of farm real estate reached March 1).

HHF Administrator Norman Mason told prefabbers at their annual meeting that "the US is at the top of the land cycle now. . . ."[34]

The spotty nature of high land prices is an outstanding characteristic of urban economics. Urban land is purchased for a major project, whether in city or suburbs. Prices may be paid that are considerably out of line with more ordinary sales. This does not mean, however, that the surrounding land can be sold for comparable amounts. For example, a sharply limited amount of land in a central city may be bought for an office building development. A large industrial plant or a regional shopping center may be located in the suburbs. Although there may be a mild stimulus to demand as a result of these enterprises, in many cases they will represent isolated examples and no comparable development will take place in the area. Some fortunate landowners may have sold at a highly inflated price, but this does not mean that neighboring landowners can likewise sell to large office building, industrial plant, or regional shopping center developers.

A major difficulty in appraising or assessing land arises from the high prices that may be paid for a particularly strategic spot. The desirability of that spot may arise from some attribute of broad general appeal, such as a prime location in the downtown area. Or its excessive value may be merely because it constitutes a "missing link" in land assembly for some large development, where the owner takes advantage of the developer's urgency in completing the essential land assembly and extracts from him a price far out of line with what could have been paid for the entire amount of land used in the project.

The limited area of land value peaks has been pointed out by some distinguished economists. For example:

> The areas of the highest real estate value ar · very limited in extent. The peaks of value are only pinpoints on the map of the world.[35]

and:

> . . . Any competent observer will testify that the value of most land in most cities, outside of the few monopolistic sites, has ceilings that are quite low and easily reached. Even more important, once the ceiling of value for urban land is reached, the long-time trend of value thereafter is more likely to be downward than upward. This statement is subject to modification in terms of the changing value of the dollar. . . .[36]

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[34] P. 45.

[35] Homer Hoyt, *op. cit.*, p. 14.

[36] Henry E. Hoagland, *op. cit.*, p. 228.

(*continued from page 2*)

Since immemorial times there have been evidences of public control of land and water uses. Regulation of air pollution goes back at least as far as 1273 when a smoke abatement law was passed in England.[1] Sanitation involves the use of land, water, and air. The ancients' fourth element was fire, of which power is the modern counterpart.

In very early times men grasped the significance of means of transport and fought for control of mountain passes, roads, and seaports. Modern transportation is a complex involving the use of all the ancient elements.

For purposes of evaluating metropolitan economics and local finance, we need the utilitarian concept of these basic and ancient elements, as represented in their modern counterparts—land and water uses, sanitation, transportation, and power. These utilities are primary functions that serve other functions. They are here defined as the basic service functions of an elemental nature, without which other enterprises could not operate, and which because they are so essential must be subjected to governmental regulation.

Land is not generally included in an enumeration of utilities, but land uses have been subjected to considerable restraint, particularly in urban areas. Indeed the social and economic importance of regulating and controlling land uses is so great that land might well be considered the basic utility. Land use has been called "perhaps the most planned sector of the American economy."[2]

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[1] Charles M. Haar, *Land-Use Planning: A Casebook on the Use, Misuse, and Re-Use of Urban Land*, Boston: Little, Brown and Company, 1959, p. 131.

[2] *Ibid.*, viii.